

IN THE CLAIMS:

Please replace claims 1-11 with the following amended claims:

- 1 1. (Amended) A dental handpiece for driving continuous
2 rotation of a dental tool, said handpiece including a drive shaft mounted to rotate
3 in a longitudinal bore of the handpiece and made up of a primary shaft and a
4 secondary shaft which are coaxial, coupled together in series by torque limiter
5 means for limiting the maximum torque that can be transmitted, and provided
6 with means for adjusting said maximum torque that can be transmitted, the
7 torque limiter means including:
- 8 -- a male coupling portion constrained to rotate with the first shaft
9 of the pair of shafts comprising the primary shaft and secondary shaft, and
10 having a coaxial annular outside surface,
- 11 -- a female coupling portion constrained to rotate with the second
12 shaft of the pair of shafts comprising the primary shaft and the secondary shaft,
13 and having a coaxial annular inside surface overlapping the coaxial annular
14 outside surface of the male coupling portion,
- 15 -- a series of coupling cavities distributed annularly over the
16 coaxial annular surface of the first coupling portion of the pair of coupling
17 portions comprising the male and female coupling portions,
- 18 -- at least one rotary coupling member with a parallel rotation
19 axis, mounted to slide radially in a transverse passage of the second coupling
20 portion of the pair of coupling portions comprising the male and female coupling
21 portions, and spring-loaded by spring means toward the coaxial annular surface

22 of the first coupling portion of the pair of coupling portions comprising the male
23 and female coupling portions so as to be partially engaged in said coupling
24 cavities whilst remaining guided in said transverse passage,

25 -- means accessible by the user for voluntary adjustment of the
26 maximum torque that can be transmitted.

1 2. (Amended) A dental handpiece according to claim 1,
2 wherein it includes at least two rotary coupling members mounted to slide
3 radially in respective transverse passages regularly distributed around the
4 longitudinal axis to balance the radial forces of the rotary coupling members
5 between the male and female coupling portions.

1 3. (Amended) A dental handpiece according to claim 1,
2 wherein the rotary coupling member(s) are/is coupling balls.

1 4. (Amended) A dental handpiece according to claim 1,
2 wherein the rotary coupling member(s) are/is mounted to slide radially in a
3 respective transverse passage in the male coupling portion, and the coupling
4 cavities are distributed annularly over the coaxial annular surface of the female
5 coupling portion.

1 5. (Amended) A dental handpiece according to claim 1,
2 wherein it includes means for adjusting the force of the spring means spring-
3 loading the rotary coupling member(s).

1 6. (Amended) A dental handpiece according to claim 1,
2 wherein:

3 -- the coupling cavities are longitudinal grooves with a circular
4 arc-shaped cross section and a depth varying in the longitudinal direction,

5 -- relative longitudinal position adjustment means accessible to the
6 user are provided for adjusting the relative longitudinal position of the male
7 coupling portion in the female coupling portion,

8 so that the rotary coupling member(s) engage(s) in deeper or
9 shallower portions of the coupling cavities as a function of the chosen relative
10 longitudinal position, which determines the maximum torque that can be
11 transmitted.

1 7. (Amended) A dental handpiece according to claim 1,
2 wherein the transverse channels are oriented in radial directions.

1 8. (Amended) A dental handpiece according to claim 1,
2 wherein the transverse passage(s) are/is oriented obliquely to the radial
3 directions.

1 9. (Amended) A dental handpiece according to claim 1,
2 wherein:

3 -- the male coupling portion is constituted by the distal end of the
4 primary shaft,

5 -- the female coupling portion is a coupling ring mounted to
6 overlap the adjacent ends of the primary shaft and the secondary shaft, and
7 coupled to the secondary shaft by rotation-preventing means,

8 -- the distal end of the primary shaft includes transverse passages
9 for guiding coupling balls,

10 -- the distal end of the primary shaft includes an axial bore into
11 which the transverse passages open,

12 -- a bearing portion is mounted to slide axially in said axial bore
13 and has a frustoconical part in contact with the coupling balls to urge them
14 radially outward,

15 -- a compression spring is engaged axially between the bearing
16 member and a calibration screw itself functionally engaged in a screwthreaded
17 section of the axial bore.

1 10. (Amended) A dental tool according to claim 9, wherein:

2 -- the coupling ring is slidably mounted on the proximal end of the
3 secondary shaft, and includes coupling cavities in the form of longitudinal
4 grooves whose depth varies in the longitudinal direction,

5 -- the coupling ring is freely rotatable and is constrained to move
6 in axial translation with an adjuster ring itself slidably mounted on the handpiece
7 body to be directly accessible to the user.

1 11. (Amended) A dental tool according to claim 1, including a
2 main handpiece body, a handpiece neck and a handpiece head, wherein the
3 torque-limiter means are housed in the neck of the handpiece.
